

Soil Borne Wheat Disease Expands

By Mary Corp

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The wheat disease, soilborne wheat mosaic virus, has made itself known this spring in parts of the Walla Walla Valley in southern Washington and northeastern Oregon. This is the second time it has appeared, but this time it is more noticeable and wider spread than 2 years ago according to local crop consultant Jerry Zahl of Walla Walla. Two years ago affected areas were small and limited to low lying areas. This time around more fields are affected and larger areas are showing symptoms. Spofford area near Milton-Freewater, Oregon and in the Mill Creek and Russell Creek areas east of Walla Walla, Washington are again seeing the disease.



*Soilbourne Wheat Mosaic
Virus, March, 2008*

The impact of the virus on the affected areas is unknown at this time and will be determined largely by the weather and related growing conditions this coming spring.

The diseased wheat foliage exhibits mosaic symptoms similar to wheat streak mosaic, which is already known to occur in the region, but wheat streak mosaic is expressed later in the growing season.



In Oregon, this virus was first detected in winter wheat in the Willamette Valley in 1994 and in winter wheat in western Umatilla County in 2005 and 2006. The disease is transmitted from root to root by the fungus *Polymyxa graminis*. It is a virus that is only moved by soil, and likely to be a problem in years when cool moist conditions occur in the fall after seeding as moisture is needed for the infection to take place.

“Some PNW wheat varieties are likely to have resistance to the disease”, according to Jim Peterson, OSU Wheat Breeder, because their parent lines come from areas where SBWM has been a problem for a number of years. Several growers have already observed a difference between varieties which lends supports this idea.

Peterson is working with John Moffatt, AgriPro Breeder, to complete a screening trial of current PNW varieties for resistance. This screening will help identify susceptible and resistant varieties. In another year they will be able to make recommendations for current varieties and will start to incorporate selection for resistance into their breeding programs.

For now in the PNW control options are limited to sanitation between fields since the pathogen can be transmitted from field to field on soil clinging to equipment. Once a field has the virus it will always be there as it does not need a wheat crop to survive. Other management options are unlikely to be helpful.

Sources: Dr. Dick Smiley, Columbia Basin Ag Research Center
Dr. Tim Murray, WSU Department of Pathology
Dr. Jim Peterson, OSU Wheat Breeder, Corvallis, OR

For additional information contact:
Mary Corp, OSU Extension Agent
OSU Extension Service
PO Box 100 Umatilla Hall
Pendleton, OR 97801
541-278-5403
Mary.corp@oregonstate.edu
www.cerealcentral.com